be permitted to apply for additional codes. Having had an exclusive franchise on N11 numbers for many years, telephone companies are in no position to complain that they have had insufficient opportunity to make use of them.[17/] Allowing telephone companies to obtain more N11 codes would only give them a new competitive advantage over independent ESP competitors.

Adopting some sort of "pioneer preference," a possibility mentioned in the Notice, Notice at ¶ 16, is unnecessary. Under a first-come, first-served assignment regime, a pioneer preference, in fact, is redundant: the first party to find a good use for an N11 number will get the number by virtue of being the first to ask for it. At best, a pioneer preference would serve the function already served by first-come, first-served assignment. At worst, the process of deciding whether a party was "worthy" of a preference would only delay the provision of new and valuable services. Thus, there is no need to adopt a pioneer preference for the assignment of N11 codes.[18/]

Once a code is assigned and put into service, there is no reason to treat it differently from other telephone numbers Free transfer of N11 numbers will assure that they ultimately have economically efficient uses.

17/ In fact, several telephone companies now provide enhanced services through 411 or have announced plans to do so. These services include call completion and providing zip codes and other non-telephone information. See Part II(B), supra. This matter may require separate regulatory scrutiny by the Commission.

18/ If the Commission permitted other assignment methods, then it might be appropriate to revisit the question of pioneer preferences. However, as shown in Part IV(B)(2), supra, other assignment methods would violate the requirements of Sections 201 and 202 of the Communications Act.

Finally, the Commission should not permit telephone companies to substitute other, inferior dialing arrangements for N11 codes unless all N11 codes are exhausted. Dialing arrangements like *NXX and NNX# simply are not as advantageous as N11, and subscribers should not be required to use those arrangements unless necessary. For instance, NNX# is unavailable from rotary or pulse telephones, which means it is not universally accessible. In any event, alternatives to N11 are unlikely to be available for years, especially since the telephone industry's standards bodies have yet to agree on how to implement such arrangements.[19/] Thus, telephone company promises to implement alternative abbreviated dialing arrangements are likely to result only in delay and inferior access even after the alternative arrangements are made. The only reasonable solution is to require the availability of N11 codes from the start, and to require subscribers to use alternative arrangements only after all N11 codes are exhausted.

V. THE COMMISSION SHOULD PERMIT ANY REASONABLE USE OF N11 CODES.

Once N11 codes are assigned, the next question is how they should be used. The basic principles for the use of N11 codes already are set by the

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19/ BellSouth informed Cox that *NXX would not be available for at least two years in the Atlanta calling area. Letter of Robert L. Capell, III to James T. McKnight, March 4, 1992, at 5. A copy of this letter is attached hereto as Exhibit 4. BellSouth also told Cox initially that NNX# would be available relatively quickly, but later determined that technical difficulties would delay the deployment of NNX# service. See Letter of David J. Markey, Vice President-Federal Regulatory, BellSouth, to Hon. Alfred J. Sikes, Chairman, FCC, April 10, 1992, Attachment at 6.

Communications Act and Commission policies. N11 subscribers should be permitted to use N11 codes to provide any service that is otherwise lawful. Telephone company use of N11 codes, however, should be conditioned on full disclosure of how the codes are used and on compliance with other basic Commission policies.

A. There Should Be No Restrictions on Non-LEC Use of N11 Codes.

Non-LEC use of N11 codes should be treated in the same way as any customer's use of the telephone network. In other words, so long as a use is privately beneficial without being publicly detrimental, that use must be allowed.

This test, first embodied in Hush-A-Phone, is the touchstone for any subscriber's use of the telephone network. See, e.g., Hush-A-Phone Corp. v. U.S., 238 F.2d 266 (D.C. Cir. 1956), MCI Telecommunications Corp. v. AT&T Co., 53 R.R.2d 1655 (1983). The private benefit/no public detriment test is the key that opened up the telephone industry to competition, first in equipment, then in long distance and now in other areas as well. This same test is equally applicable to the use of N11 codes.

As applied to N11 codes, the private benefit/no public detriment test means that a subscriber could use the N11 code to provide an alternative directory assistance service, electronic classifieds, a computer gateway, convenient dialing for paging customers trying to get their messages, or any other use that the subscriber finds beneficial. Once the code is assigned, it must be the subscriber's choice how to use it, and telephone company restrictions must not

prevent the subscriber from exercising that choice. Any other result would limit the subscriber's ability to find the best use for the N11 code and, ultimately, hurt the broader public interest as well.

B. LEC Use of N11 Codes Should Be Permitted Only Consistent with Other Commission Policies.

As described above, non-LEC uses of N11 codes should be wholly unrestricted. LEC use of N11 codes, however, should be permitted only if the LEC meets certain basic requirements necessary to assure fairness in the assignment and use of N11 codes.

Most important, LECs should not be permitted to use any N11 code for enhanced services unless N11 codes also are available to independent subscribers. This policy is fully consistent with the Commission's Comparably Efficient Interconnection policies and ONA policies, which require BOCs to make basic services they use in connection with enhanced service offerings generally available to other independent ESPs. See Amendment of Sections 64.702 of the Commission's Rules and Regulations, 104 F.C.C.2d 958, 1036, 1042, ¶¶ 147, 162 (Third Computer Inquiry) (abbreviated access must be made available to independent ESPs if used by a BOC). This restriction not only will assure that LECs do not dominate the field of abbreviated dialing services, but will give LECs that wish to use N11 codes for enhanced services an incentive to make N11 codes generally available.

LECs also must be required to properly allocate the costs of enhanced services offered through N11 numbers. Again, this requirement is consistent with other Commission policies for any enhanced services.

The Notice requested comment on LEC use of 611 and 811. Notice at ¶ 12. There is no reason to disrupt a telephone company's historic use of 611 for repair service and 811 for business office calls. However, the telephone company, like other information service providers whose access to N11 numbers is limited, should not have access to multiple N11 numbers for enhanced or other services. If a telephone company chooses to eliminate the use of 611 and 811 for their current purposes, the numbers should be made available for assignment to other parties on a first-come, first-served basis.[20/]

Finally, the Commission should require all telephone companies to report their own current uses of N11 numbers. In the case of any number used to provide information or enhanced services, telephone companies should report each of the services provided through that number, and the areas where those services are available. This information will help the Commission to formulate future policies concerning the use of N11 numbers and other alternative dialing arrangements and will be useful in determining whether, in fact, telephone companies comply with the Commission's rules and policies regarding N11 numbers.

20/ To the extent that any telephone companies are not now using 611 and 811 for repair and business office calls, those numbers should be made available for assignment to independent subscribers immediately.

VI. THE COMMISSION MAY NOT CONDITION ASSIGNMENT OF N11 CODES ON THE ACTIONS OF BELLCORE, A PRIVATE ENTITY.

The Notice proposes to make N11 assignments subject to recall after notice from the Administrators of the Numbering Plan, and permits the Administrators to recall N11 codes from use generally. Notice at Appendix A. The Commission cannot delegate this authority to the Numbering Plan Administrators, who are under the control of Bellcore, a private entity. Not only would such delegation be unlawful, it would not serve the public interest even if it were permitted under the Communications Act.

A. The Commission Is Not Empowered to Delegate Its Authority to a Private Entity.

The most basic flaw in the proposed delegation of authority over N11 codes is that the Commission is not empowered to delegate a governmental function to a private entity such as Bellcore. While private interests may serve in an advisory role, the final decision in any substantive matter must lie with the Commission.

The Court of Appeals explained this principle in 1984, when it cautioned that the FCC "cannot, of course, cede to private parties such as the exchange carriers either the right to decide contests between themselves or even the opportunity to narrow the margins of the debate[.]" National Ass'n of Reg. Util. Com'rs v. F.C.C., 737 F.2d 1095, 1143 (D.C. Cir. 1984). One reason that delegation to private parties is not permitted is that their "interests may be and often are adverse to the others in the same business." Id. at 1144 (quoting Carter

v. Carter Coal Co., 298 U.S. 238, 311 (1936)). See also Southern Bell v. F.C.C., 781 F.2d 209 (D.C. Cir. 1986) (delegation of authority to a state would be improper).

In this context, it is clear that the Commission cannot delegate any authority to the Administrators of the Numbering Plan. The Administrators are employees of Bellcore, a private entity owned by the seven Regional Bell Operating Companies. Thus, delegation to the Numbering Plan Administrators would be as impermissible as direct delegation of Commission authority to a BOC.[21/]

In addition, the Numbering Plan Administrators are subject to the same conflicts of interest identified by the Court of Appeals in the 1984 NARUC case. As part of an entity owned not just by LECs, but by seven of the eight largest LECs, the Administrators are in no position to assure ESPs and other telephone industry participants of their neutrality or fairness. Moreover, as discussed in Part V(B) below, there is significant evidence that the Numbering Plan Administrators are insensitive to the concerns of non-LECs regarding numbering issues. This confirms the reasonableness of the Court's directive against delegation to private entities.

21/ The Commission is, of course, empowered to take advantage of private entities' expertise when it crafts rules and policies, so long as the Commission makes the final determination and so long as other parties are permitted to comment on the proposal. See, e.g., Procedure for Measuring Electromagnetic Emissions from Digital Devices, FCC 92-183, rel. May 21, 1992.

Consequently, the Commission may not delegate its authority in this matter to the Administrators of the Numbering Plan. Private entities may advise the Commission, but they may not exercise the Commission's powers.

B. Delegation of this Responsibility to Bellcore Would Not Serve the Public Interest.

Even if the Commission could delegate its authority over N11 codes to Bellcore, it would be imprudent to do so. The Numbering Plan Administrators and Bellcore are not suited to make impartial decisions regarding the assignment of N11 codes. In recent times, the Administrators' actions have shown they are insensitive to the needs of non-LECs and much of the telephone industry has no confidence in the Administrators' neutrality.

The evidence of the Administrators' indifference to non-LEC interests is significant. Four recent cases are illustrative. First, the Numbering Plan Administrators, following a request from the Commission, initiated an inquiry into the proper guidelines for NXX code assignments. Its draft guidelines, supposedly prepared after comment from all segments of the industry, contained none of the proposals made by cellular carriers and failed even to acknowledge that those proposals had been made. Similarly, in preparing the long term numbering proposal, the Numbering Plan Administrators did not consult any independent ESPs to determine what their numbering needs would be over the next thirty years. See NANP Numbering Proposal, Exhibit 2 at Appendix H.

Most recently, the Numbering Plan Administrators prepared draft guidelines for NXX code assignment to a proposed PCS Service Access Code, which would be used until 1995 when interchangeable NPAs are implemented. The guidelines were supposed to be distributed to all interested parties. They were not distributed to Cox or many other PCS experimental licensees, despite the fact that their interest in PCS was a matter of public record.

Finally, the Numbering Plan Administrators' response to Cox's request for an N11 code demonstrates an interest not in promoting services, but in serving the telephone industry's agenda. By letter to BellSouth, the Administrators said that assignment of N11 codes for local use, the precise use permitted currently under the Numbering Plan, would be "undesirable."[22/] The Administrators proposed, in essence, that Cox join with industry groups to devise some other form of abbreviated dialing, which would be, as the letter stated, "a multi-year process." This response clearly was not intended to meet Cox's needs and was, in fact, contrary to the terms of the Numbering Plan as set forth in Notes on the Network and to the telephone industry's approach to other numbering issues.[23/]

The result of actions like these is that non-LEC segments of the telephone industry have no confidence in Bellcore's ability to administer the

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22/ A copy of this letter is attached hereto as Exhibit 5.

23/ For instance, the letter indicated that the use of N11 codes for area codes would preclude their use locally. That plainly is incorrect since numbers used for area codes are already also used as local exchanges in many parts of the country, including Atlanta and the Washington, D.C. metropolitan area.

Numbering Plan fairly. For instance, in comments on the draft NXX code assignment guidelines, most non-LECs supported proposals to remove decision-making authority from Bellcore. Similar concerns were expressed in response to the Commission's request for comments on opening a general proceeding concerning numbering issues, where most non-LEC commenters expressed concern regarding the administration of the Numbering Plan. See DA 91-1307 and Reply Comments of National Association of Regulatory Utility Commissioners therein.

In this context, it would be singularly injudicious for the Commission to delegate decision-making authority to the current Numbering Plan Administrators. The Administrators' indifference to non-LEC concerns justifies a lack of confidence in their ability to make neutral decisions. Delegation could lead not only to unfair results but to protracted litigation concerning numbering decisions, potentially delaying service to the public. The public interest requires that the Commission retain its authority to adopt and implement rules governing assignment of N11 codes.

C. There Is No Need to Condition the Assignment of N11 Codes.

There are many reasons why it would be unwise to delegate authority over N11 assignments to the Numbering Plan Administrators. In addition to the legal impediments and the Administrators' unsuitability to make these decisions generally, there also is no need to impose special conditions on the assignment of N11 codes because there is no likely prospect of a better,

conflicting use arising. If there is a need to reconsider the assignment of N11 codes at some later date, already-existing Commission mechanisms will suffice to respond to any changes in conditions that could arise.

1. Local Abbreviated Dialing Is the Best Available Assignment for N11 Codes.

In the current telephone environment, there can be little doubt that local abbreviated dialing is the best available assignment for N11 codes. As described in Part II(A), above, local assignment would serve the public interest. At the same time, there is no other likely use of N11 codes that would preclude their local assignment, either immediately or in the foreseeable future.

In the short term, the only potential use of N11 codes is local service. For the reasons described in Part II(A), national assignments would waste numbering resources and could take years to implement. Thus, local use is the best use.

Several longer-term uses for N11 codes have been suggested. Notably, Bellcore has suggested that N11 codes might be needed to alleviate NPA exhaust before 1995 or for service access codes after 1995. Neither of these proposed uses would preclude local assignments of N11 codes.

Initially, there is little reason to think that N11 codes will be used for area codes before 1995. While there is a possibility that traditional area codes will run out, five N00 codes remain unused, and it is by no means certain

that any of those codes will be needed.[24/] Moreover, the Numbering Plan, as embodied in Notes on the Network, does not include N11 codes among the numbers available for area codes. See Notes on the Network, Exhibit 1 at § 3.2.1.

Of course, there also are other, less costly responses even before assigning N00 codes as area codes. For instance, telephone carriers could recover telephone numbers reserved for Centrex or PBX use, but not actually activated. Thus, there is little likelihood that N11 codes will be needed for area codes before 1995.

Similarly, there is no reason to use N11 codes as service access codes after 1995. The long term numbering proposal does not explain why there is a need for any new service access codes when five of the original eight codes now remain unused and even recognizes that N11 codes are only among the possibilities. NANP Numbering Proposal, Exhibit 2 at § 4.2.3. Many parties filing comments on the proposal, in fact, questioned whether there was a need for any new service access code assignments at this time. The potential desirability of having additional service access codes does not justify eliminating the unique functionality of N11 codes for local dialing, especially when the implementation

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24/ The Notice correctly reports that there are only two unassigned NPAs, Notice at ¶ 2, and according to Ronald Conners of Bellcore, a request is pending for one of those NPAs. However, NPAs typically are assigned two or more years before they are put into operation, in order to provide time to set area code boundaries and to permit ample time to notify telephone companies and affected subscribers. The pending request, for instance, anticipates that the new NPA will go into use in 1994.

of interchangeable NPAs will make so many other codes available for that assignment.

Finally, even if N11 codes were assigned to be used as area codes or service access codes at some point in the future, that would not preclude their continuing use as local abbreviated access numbers. Under interchangeable NPAs, the numbers used for area codes are no longer distinct from the numbers used for local seven digit calls. In many parts of the country, including most major metropolitan areas, this aspect of interchangeable NPAs already has been adopted.[25/] This dual use of a three digit sequence as part of a local number and as an area code is already an accepted part of dialing telephone numbers. There is no reason to think that people would respond any differently if an N11 code were assigned both to local use and as an area code or service access code.

In sum, there is no reason to believe that N11 codes will be required for any use but local abbreviated dialing. Even if such a need were to arise, it would not prevent the continued local use of N11 codes.

25/ The use of interchangeable central office codes does require certain accommodations. The home NPA is not assigned as a central office code, and usually adjacent NPAs also are not assigned in order to prevent dialing errors. A similar accommodation probably would be appropriate if any N11 codes were assigned as NPAs.

2. If Conditions Change, the Commission's Processes Will Provide the Best Mechanism for Modifying N11 Assignment Policies.

While there is no foreseeable need to recall N11 codes, it is possible that some unforeseen need or use may arise. If conditions change that radically, then the Commission's existing processes provide the best mechanism for determining whether and how to modify N11 assignment policies. The Commission's processes would give all affected parties both the opportunity to participate in such decisions and fair warning of any changes that might occur.

As a practical matter, the Commission is the only party in a position to make decisions about changes in N11 assignment policies. Through its plenary authority over numbering and in its role as the regulatory agency with federal authority over telephone companies, the Commission has the power and the expertise to make such decisions.

The Commission's processes also provide appropriate paths for resolving questions concerning N11 code assignment policies. Any party that wants to modify the assignment process or change the general availability of N11 codes may request a waiver of the rules or a new rulemaking altogether if circumstances warrant. These open processes will give all interested parties the opportunity to participate in the decisions that will affect them.

The Commission's consideration of any request for changes in N11 assignment policies also would provide an opportunity to assure that affected parties are provided with reasonable alternatives. Notably, any change in policy that would have the effect of limiting or eliminating available N11 assignments

should include reasonable alternative abbreviated dialing arrangements for affected parties and should not have the effect of creating preferences for telephone companies or their affiliates. Similarly, in light of the long time frames for changes in the telephone network, any changes in N11 policies should be made on at least 12 months' notice. This will give both the telephone companies and affected users sufficient time to make their alternative arrangements.[26/]

Thus, the Commission's processes provide the best route for any changes that might be necessary in N11 code assignment policy. The Commission should not and, indeed, cannot delegate this responsibility to the Numbering Plan Administrators or any other private entity.

VII. CONCLUSION

Cox supports the Commission's proposal to codify telephone companies' obligation to make N11 codes generally available. Assuring independent ESPs and others of access to this unique dialing arrangement will create new opportunities for exciting and valuable enhanced services across the country.

The Commission should take care to assure that the rules and policies it adopts create a level playing field for all potential users of N11 codes.

26/ More notice may be required in some cases. Cox notes that there is typically more than two years between the time a new area code is assigned and the time it is implemented. In addition, some comments on the Numbering Plan Administration's draft central office code guidelines suggested that six months was insufficient notice for the relatively routine task of assuring that new central office codes are implemented in a carrier's switches.

To do so, the Commission should require that codes be made available without restriction to non-LEC applicants and that the codes be assigned on a first-come, first-served basis. There should be no restrictions on how N11 codes are used by their subscribers, and LECs should be permitted to use N11 codes for enhanced services only if they meet basic requirements necessary to assure fairness to non-LECs. Finally, the Commission must not delegate any of its authority over N11 codes to the Administrators of the Numbering Plan, because the Administrators are not legally qualified and because the non-LEC telephone industry lacks confidence in their neutrality. Rules and policies that follow these principles will serve the public interest by making N11 codes available to all potential users and permitting those users to find the best uses for the codes.

For all of these reasons, Cox Enterprises, Inc. respectfully submits that the Commission should adopt rules and policies governing the assignment of N11 codes in the form described herein.

Respectfully submitted,

COX ENTERPRISES, INC.

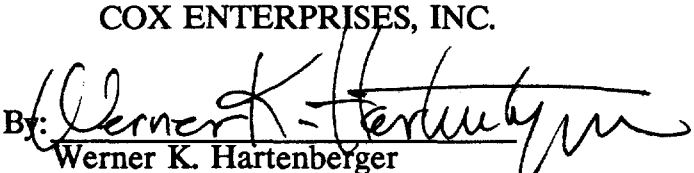
By: 
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EXHIBIT 1

EXCERPTS FROM BOC NOTES ON THE LEC NETWORKS - 1990

Section 3.2.1

Permitted Area Codes

Table 3-1. NANP Telephone Number Format

3-Digit Numbering Plan Area (NPA)	+	3-Digit Central Office Code	+	4-Digit Station Number
N 0/1 X		NNX*		XXXX

Legend:
N is any digit 2-9
X is any digit 0-9
0/1 is either 0 or 1.

* In NPAs where interchangeable central office codes have been implemented (see Section 3.3), the format for the central office code is NXX.

NANP numbers generally define a geographic hierarchy. The area served by the NANP is divided into distinct exclusive geographic areas, each of which is assigned a Numbering Plan Area (NPA) code. Central office codes are typically assigned to local central offices that provide basic switching functions within each NPA. Each central office code can serve as many as 10,000 subscriber lines or station numbers. The sections that follow describe NPAs, central office codes, and station numbers in more detail.

3.2 Numbering Plan Areas

Most NPAs, also called area codes, identify a geographic area. A map showing the NPA boundaries within World Zone 1 is found in Figure 3-2. Tables 3-11 and 3-12 at the end of this section list the NPA codes assigned through December 1990.

Certain NPA codes in the format N00 and N11 do not identify a geographic area. Codes in the format N00 are called Service Access Codes (SACs); those in the format N11 are called Service Codes. The functions of these nongeographic codes are explained below.

3.2.1 NPA Code Format and Capacity

In the NANP, NPAs are in the following format.

N 0/1 X
where N is any digit 2 through 9
X is any digit 0 through 9
0/1 is either 0 or 1

The NANP specifies that codes of the format N 0/1 X be used as NPA codes except for codes of the format N11, which are reserved for special functions. This provides a total of 152 NPA codes as follows.

Maximum NPA codes available with an N 0/1 X format	160
Less reserved codes of N11 format	8
Total NPA codes available for assignment	152

Depletion of the NPA pool was foreseen in the early 1960s, and a solution called *interchangeable NPA codes* was developed. Interchangeable NPA codes are in the following format.

NXX
where N is any digit 2 through 9
X is any digit 0 through 9

This NXX format provides a total of 792 NPA codes, which includes the 152 codes in the N 0/1 X format, a more than fourfold increase.

Maximum NPA codes available with NXX format	800
Less reserved codes of N11 format	8
Total NPA codes available per assignment (including 152 codes in the N 0/1 X format)	792

The introduction of interchangeable NPA codes, which is scheduled to take place after July 1, 1995, requires special preparation, as described in Section 3.4.

3.2.2 NPA Code Assignment

Assignment of NPA codes is the responsibility of the NANP Administration Organization at Bellcore. NPA code assignments require written authorization of the Bellcore *Vice-President — Operations Technology*. Tables 3-11 and 3-12 show the existing assignment of NPA codes and SACs. Figure 3-2 shows the geographic areas encompassed by each NPA.

NPAs were created and designed in ways that maximize caller understanding while minimizing both dialing effort and telephone plant cost. There are several principles to be considered in planning NPA boundary changes due to either the introduction of new NPAs or the realignment of existing NPA boundaries.

- Where possible, boundaries should be drawn to coincide with state, province, or other political subdivision boundaries. In the United States, boundaries must not cross over state lines.
- When it is impractical to draw boundaries to coincide with province or other political subdivision boundaries, then the boundaries should follow recognizable physical geographic features or structures such as rivers, large lakes, mountain ranges, or

Section 3.2.4

Reservation of N11 Codes for Local Use

Copies of a publication titled *Service Access Codes 800/900 Assignments*, which includes the assigned carrier's name and telephone number, can be obtained by calling the Traffic Routing Administrator, 201-829-3071.[5]

Media Representation of Service Access Codes

The numbers 700, 800 and 900 must always be dialed in connection with their respective services. Whenever these SACs are shown in any type of media, they should *not* appear in parentheses, for example, (800) NXX-XXXX or (900) NXX-XXXX, because parentheses imply that dialing the code is optional. Following dialing recommendations made later in this section, media advertising that includes 700, 800, or 900 numbers should show them preceded by the prefix digit "1" (that is, 1+ 800 + NXX-XXXX).

3.2.4 N11 Service Codes

Service codes serve various special functions. Some are no longer in use, others are in limited use, and some are standard almost everywhere. As of mid-1990, service code assignments were as follows.

Table 3-2. Service Code Assignments

Code	Assignment
211	Unassigned
311	Unassigned
411	Local Directory Assistance
511	Unassigned
611	Repair Service
711	Unassigned
811	Business Office
911	Emergency

Any unassigned service codes, including 611 and 811 if they are phased out of service, will be kept available for future assignment by the NANP Administration Organization. Service codes may be used locally if their assignment and use can be discontinued on short notice.

Universal Emergency Number

Where it has been implemented, public emergency service should be universally accessible by dialing 911. A requirement for callers to dial a 1 (or any other) prefix with the digits 911 is strongly discouraged. Enhanced 911 service should not be referred to or shown as "E911" to avoid the possible misconception that the "E" could or should be dialed.

Section 4.1.3

Routing of 911 Calls

Combined Systems

Recognizing that dedicated tandems serving rural or other low-volume areas may not necessarily be cost effective, tandem capabilities have been added to a variety of end office technologies. The combined systems share portions of the hardware and software as an efficient compromise to meet both customer service needs and network requirements.

Digit Utilization and Translation

Routing within an intraLATA network is done sequentially by each switching system as a call progresses. To do this, each office must be able to examine the destination-code digits received to select an outgoing route and determine the proper signaling to pass to the next switching system.

The dialing plan employs the principle of destination-code routing. Each customer terminal in World Zone 1 is assigned a unique 10-digit number that consists of a 3-digit area code, a 3-digit central office code, and a 4-digit station number.

Several methods are commonly used for treating the address digits of a call. When an intraLATA Foreign Numbering Plan Area (FNPA) can be reached by more than one route, the first 6 digits (area code and central office code) of the 10-digit number of each call to a FNPA are examined by the originating switching system to determine the preferred outgoing route. In addition, all or part of the 6 digits can be *deleted*, other digits can be *prefixed*, or the digits can be *converted* to other digits, depending on the requirements of the switching system to which the address information must be forwarded. This process is called 6-digit translation.

Digit deletion is used for various purposes including the following:

- To drop an area code when pulsing into that area
- To drop an area code or central office code when other digits are to be substituted for them (this is called code conversion)
- To drop part or all of a central office code when the remaining code digits are all that are necessary to route the call to that office (delete 1, 2, or 3 digits).

The number of digits that can be deleted is independent of the number of digits used for selecting the outgoing route. Digit deletion always begins with the first digit received.

One to six digits can be prefixed to the received digits, depending upon the type of switch. An example is the prefixing of the Home Numbering Plan Area (HNPA) code to the central office code and station number received.

Code conversion is a capability in some systems, which permits the substitution of digits for some or all of the digits received. This feature provides flexibility in meeting numbering plan requirements by furnishing routing digits for certain switching systems in the network (for example, to establish a call through a SXS system that requires routing digits different from those provided by the 7-digit address). The last preceding

tandem office can delete some of the 7 digits and furnish instead digits that fit the switching pattern of the SXS system. Sometimes 911 is converted to a 7- or 10-digit telephone number for routing.

Trunk Circuits

Trunks between switching systems are most commonly carried on channels of digital carrier systems (DS1 and higher-order multiplexes). However, some individual analog circuits on copper cable pairs and some Frequency Division Multiplex (FDM) carrier systems are employed.

Analog SPC and electromechanical switching systems must treat each trunk as an individual analog circuit. Digital SPC systems usually treat full DS1s (or higher-order multiplexes) and switch the digital contents of the channel without conversion to analog.

The following paragraphs describe the relationship between trunk types and the connection types that are supported.

Voiceband or 3-kHz connections may use either analog or digital trunk channels and either multifrequency or CCS signaling. Data connections at 56 kbps must use digital trunk channels and may use either multifrequency or CCS signaling. However, the use of multifrequency signaling may limit the flexibility of use of that channel.

Data connections at 64 kbps (and connections at 7 kHz) must use digital trunk channels with 64 kbps clear-channel capability, and consequentially must use CCS for interoffice signaling. Detailed requirements for trunk signaling are contained in *LATA Switching Systems Generic Requirements (LSSGR)*, FR-NWT-000064.[1]

Call Control

Recorded announcements and various tones are used to advise the calling customer of call progress. On most calls, the calling party will receive either a recorded announcement or a call progress tone. Control of the connection is achieved as follows.

- On *customer-dialed calls*, the connection is usually under the immediate control of the calling customer and under delayed control (timed disconnect) of the called customer. The range of disconnect timing intervals for various switching systems is shown in Tables 6-8 and 6-9 in Section 6 of this document.
- On *operator-dialed calls*, the connection between the operator and the calling customer is under joint control except where the operator performs actions to have sole control of the call.

4.1.4 Interexchange Carrier Points of Presence

A Point of Presence (POP) is a location within a LATA that has been designated by an interexchange carrier for the connection of its facilities with those of a LEC. Typically, a POP will be at a building that houses an interexchange carrier's switching system or facility node, and it must be located within the LATA that the interexchange carrier serves. An interexchange carrier may have more than one POP within a LATA, and a